

### **REMARKS**

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-6 are presently active in this case.

In the outstanding Office Action, Claims 1-4 were rejected under 35 U.S.C. §102(b) as anticipated by Ishida et al. (U.S. Patent No. 6,173,576, herein "Ishida"); and Claims 5-6 are rejected under 35 U.S.C. §103(a) as unpatentable over Ishida in view of Ishikawa et al. (U.S. Patent No. 6,728,102, herein "Ishikawa").

First, Applicants respectfully submit that the finality of the outstanding Official Action is improper and respectfully request that the finality be reconsidered and withdrawn, as discussed in an telephone interview with Examiner Wright on December 15, 2005.

According to MPEP §706.07(a) at page 700-80, "[a] second or any subsequent action on the merits shall be final, except where the examiner introduces a new ground of rejection that is neither [1] necessitated by applicant's amendment of the claims nor [2] based on information submitted in information disclosure statement filed during the period set forth in 37 CFR 1.97(c)." In the outstanding Office Action, new grounds of rejection have been introduced at least with respect to Claims 1-4, while neither conditions (1) nor (2) have been met. More specifically, Claims 1-4 were rejected in the October 19, 2005 Office Action under 35 U.S.C. §102(b) as anticipated by Ishida, while Claims 1-4 were rejected in the April 15, 2005 Office Action under 35 U.S.C. §102(b) as anticipated by Cheon (U.S. Patent No. 6,234,240), thereby forming new grounds of rejection.

With respect to condition (1), the new ground of rejection were not necessitated by an amendment to Claims 1-4, since Applicants believe that these claims had not been amended to change the scope necessitating any new grounds of rejection. The changes to Claims 1-2

merely corrected some *minor formal issues* without changing the scope of the claims, while Claims 3-4 were not amended at all.

With respect to condition (2), the new grounds of rejection were not based on information submitted in an Information Disclosure Statement (IDS) filed during the period set forth in 37 C.F.R. §1. 97(c), since no IDS was filed by Applicants between the October 19, 2005 and the April 15, 2005 Office Actions.

For at least the foregoing reasons, Applicants believe that the finality of the outstanding Office Action is premature, and Applicants respectfully request that the finality be withdrawn.

In response to the rejection of Claims 1-4 under 35 U.S.C. §102(b), Applicants respectfully traverse the rejection and request reconsideration of the rejection, as next discussed.

Briefly recapitulating, Applicants' Claim 1 relates to a cooling device configured to cool an electronic element producing concentrated heat by a flow of a cooling medium, including a first flow channel disposed upstream of the electronic element in the flow of the cooling medium; *a second flow channel disposed downstream of the electronic element in the flow of the cooling medium*; and an active heat transport element including a heat intake portion and a heat outlet portion, the active heat transport element configured to conduct heat from the heat intake portion to the heat outlet portion, wherein the heat intake portion is thermally connected with the first flow channel so as to conduct heat from the cooling medium, and *the heat outlet portion is thermally connected with the second flow channel so as to conduct heat to the cooling medium*.

Turning now to the applied reference, Ishida describes a cooling unit for an integrated circuit with peltier elements, wherein a plurality of peltier elements 18 mounted onto a base

plate are separated by channels 20.<sup>1</sup> However, Ishida fails to teach or suggest a second flow channel disposed downstream of the electronic element in the flow of the cooling medium, as recited in independent Claim 1. The outstanding Office Action asserts that Ishida's separation channels, as shown in Ishida's Figures 1-2 with reference numeral 20,<sup>2</sup> read upon Applicants' second flow channel. Applicants respectfully disagree, since Ishida's separation channels 20 are not disposed downstream of the electronic active element. Even if *in arguendo* we assume that the separation channels correspond to the second flow channel, there is no "heat outlet portion being thermally connected with the second flow channel so as to conduct heat to the cooling medium," as recited in Applicants' Claim 1. Ishida further states that "channels 20 and 26 can be in fluid communication with a main duct,"<sup>3</sup> and the channels 20 and 26 are neither upstream nor downstream of the electronic element.

Moreover, the first flow channel cannot be found in Figure 2 since "the heat intake portion being thermally connected with the first flow channel so as to conduct heat from the cooling medium," as recited in Applicants' Claim 1, is not disclosed. To the contrary, Ishida discloses that heat generated by the integrated circuit 14 may conduct through the base plate 16 and into the peltier devices 18 and fins 22.<sup>4</sup> Supposed *in arguendo* that the integrated circuit 14 and the peltier devices 18, as shown in Ishida's Figures 1-2, correspond to the electronic element and the active heat transport element, respectively, such description may be interpreted as the heat intake portion of the active heat transport element being thermally connected to the electronic element, **and not** thermally connected to the first flow channel. Such teachings of Ishida are inconsistent with "the heat intake portion being thermally connected with the first flow channel so as to conduct heat from the cooling medium," as recited in Applicants' Claim 1. For at least the foregoing reasons, Applicants submit that

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<sup>1</sup> See Ishida in the Abstract, at column 2, lines 7-23, and in corresponding Figures 1-2.

<sup>2</sup> See the outstanding Office Action at page 2, lines 12-14.

<sup>3</sup> See Ishida at column 2, lines 35-36 and in Figure 2.

<sup>4</sup> See Ishida for example at column 2, lines 31-33.

Ishida fails to teach or suggest all the features of Claim 1. Accordingly, Applicants believe that the rejection of Claims 1-4 is overcome and respectfully requests reconsideration of the rejection based on Ishida.

In response to the rejection of Claims 5-6 under 35 U.S.C. §103(a), since the rejection of independent Claim 1 is believed to be overcome, the rejection of dependent Claims 5-6 is believed to be overcome. Furthermore, the reference Ishikawa fails to remedy the deficiencies of Ishida. Ishikawa describes an electronic apparatus with a heat receiving portion connected to a heat generating component, wherein a heat transmitting case 34 is divided in the inside into flow paths 36 for conducting liquid coolant.<sup>5</sup> In Ishikawa, there is no active heat transport element configured to conduct heat from the heat intake portion to the heat outlet portion. Ishikawa also fails to teach or suggest that a second flow channel disposed downstream of the electronic element, wherein a heat outlet portion is thermally connected with the second flow channel so as to conduct heat to the cooling medium.

Therefore, even if the combination of Ishida and Ishikawa is assumed to be proper, the combination fails to teach every element of the claimed invention. Specifically, the combination fails to teach the claimed second flow channel. Accordingly, Applicants respectfully traverse, and request reconsideration of, this rejection based on these patents.<sup>6</sup>

Consequently, in view of the present Request for Reconsideration, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1-6 is earnestly solicited.

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<sup>5</sup> See Ishikawa at column 8, lines 35-51 and in corresponding Figures 3 and 16.

<sup>6</sup> See MPEP 2142 stating, as one of the three "basic criteria [that] must be met" in order to establish a *prima facie* case of obviousness, that "the prior art reference (or references when combined) must teach or suggest all the claim limitations," (emphasis added). See also MPEP 2143.03: "All words in a claim must be considered in judging the patentability of that claim against the prior art."

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicants' undersigned representative at the below listed telephone number.

Respectfully submitted,

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